

7. Explain the following :
- (a) Construction of syntax trees
 - (b) Data structures for symbol table
- Unit-IV**
8. (a) What do you mean by code generation? Explain in detail the concept of code generation.
- (b) What is code optimization? Explain the principles of optimization.
9. Explain the following in detail :
- (a) DAG representation of basic blocks.
 - (b) Peephole optimization.

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**M.C.A. 2nd Sem.
(with new note - M.M. 80
w.e.f. May, 2013)**

Examination-May, 2016

**Principles of Systems Programming &
Compiler Design (New)**

Paper-MCA-205

Time : 3 hours

Max. Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all. Question Number **1** will be **compulsory**. In addition to compulsory question, student will have to attempt **four** more questions selecting at least **one** question from each unit. All questions carry equal marks.

1. (a) What is system programming ? Explain.

- (b) What are editors? Explain.
- (c) What is r expression?
- (d) What is j x form? Explain.
- (e) What is l ptimization?
- (f) What is l er allocation?
- (g) Different between compiler and interpret
- (h) What do ean by syntax analyzer?

Unit-I

2. Explain the following in detail :
- (a) Evolution of the components of system program
 - (b) Software
3. (a) What do macros mean by Macro? How macros expanded? What is condition macro expansion? Also different between macro & subroutines

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- (b) What are the various loader schemes? Explain with suitable example.

Unit-II

4. What is compiler? Explain the common compiler features that are largely independent of machine. Explain the various issues related to the design of a compiler. Also explain the differences between incremental and cross compilers.
5. Explain the following in detail :

- (a) Lexical analyzer and Finite-Automata
- (b) Recursive descent parsing and Predictive Parsers

Unit-III

6. (a) What is Symbol table? Explain the contents of symbol table.
- (b) Write a detail note on Runtime storage administration.

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[Turn Over